

Comments at EPA Tier 2 Workshop

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The Clean Air Act Amendments require the EPA to assess the need, feasibility, and cost-effectiveness of the Tier 2 standards. As a part of the need determination, EPA will be estimating the number of ozone, PM₁₀, and carbon monoxide nonattainment areas in the timeframe of the emission benefits of the Tier 2 standards and the degree to which the Tier 2 standards would reduce any or all of these pollutants. Estimates of the number of nonattainment areas must be made with the new ozone and PM national ambient air quality standards, rather than the current standards. However, the PM_{2.5} monitoring network will not be set up in time to provide sufficient information regarding the PM_{2.5} nonattainment status of various areas of the U.S. With respect to ozone, EPA has determined that there could be some increase in the number of nonattainment areas.¹

Therefore, EPA must assess the emission benefits of various Tier 2 scenarios, for three purposes:

1. to determine how Tier 2 standards would help nonattainment areas in the timeframe they would take effect,
2. to develop other relevant environmental impacts, and
3. to determine the cost-effectiveness of the Tier 2 standards and requirements in helping local areas achieve the various National Ambient Air Quality Standards

EPA has raised many issues in the Tier 2 study which will require some assessment of emission benefits, for example:

- which pollutants should be addressed with the standards?
- which pollutants should be included in the benefits assessment?
- which vehicle classes besides passenger cars and 0-3750 GVW LDTs should be controlled?
- what are the baseline vehicles against which Tier 2 vehicles should be compared?
- should certification fuel specifications be changed?
- should new in-use fuel standards for Tier 2 or all vehicles be implemented?
- should diesels be exempted from the NOx standards
- should the SFTP standards be changed?

¹ Since the time of the Tier 2 workshop, EPA has promulgated new PM and ozone NAAQS. The impact of the new ozone standard should be minimal, as EPA has determined that "These [utility] emission reductions alone should be enough to allow most of the newly non-attainment counties to be able to comply with the new standard." (Achieving Clean Air in Common Sense, Flexible and Affordable Ways, EPA Fact Sheet, June 25, 1997).

- should the evaporative and running loss standards be changed?
- should useful life requirements be changed?

A critical issue in this study is that currently, the existing tools are inadequate for making many of these determinations. EPA is in the midst of very significant revisions to the MOBILE5 model, and many items under consideration and study would have a direct impact on the emission benefits of the Tier 2 standards.

The timeframe for releasing MOBILE6 is similar to the Tier 2 schedule, in that the final model will be released about the time that the final Tier 2 study is required (summer of 1998). The following are issues EPA is addressing in MOBILE5 which will have a direct bearing on the emission benefits and cost effectiveness of the Tier 2 standards and requirements:

- Deterioration. EPA is currently examining its estimates of deterioration for Tier 0 and later vehicles. This will impact the average emission levels of Tier 1 passenger cars and light duty trucks, which are the baseline vehicles the Tier 2 standards should be compared to.
- Effects of Onboard Diagnostics. Currently the MOBILE5 model contains no benefits for onboard diagnostics, which are given very significant credits in ARB's EMFAC model. EPA has indicated in MOBILE6 workshops that it will be examining this issue in more detail. This will also significantly affect the emissions of Tier 1 passenger cars and light duty trucks.
- Effects of the Enhanced Evaporative Rules. MOBILE5 does include the effects of enhanced evaporative requirements, but more data on baseline evaporative emissions and the effects of controls has recently been collected, and needs to be incorporated into MOBILE6. Without this data, it is very difficult to determine whether additional controls are warranted.
- Effects of Off-Cycle Emissions, and Off-Cycle Controls. EPA has promulgated new emission standards for controlling off-cycle emissions from Tier 1 vehicles related to aggressive driving and the effects of air conditioning. Off-cycle emissions have not been incorporated into the MOBILE5 model, nor have the effects of these controls. EPA needs to revise the model for off-cycle effects, and the effects of the adopted controls on off-cycle emissions, prior to deciding whether or not *new* off-cycle controls will be required.
- Effects of Fuels. The MOBILE5 model adjusts emissions for volatility (RVP) and oxygen content. In addition, it can estimate the benefits of Federal Phase 1 and Phase 2 reformulated gasoline. All of these adjustments are based on the EPA Complex Model, which in turn is based on emission tests on Tier 0-type vehicles. EPA plans to update some of the fuel effects in MOBILE6, including the effects of gasoline sulfur level. There is evidence that Tier 2-type vehicles may be more sensitive to gasoline sulfur level than Tier 1 or Tier 0 vehicles, which would also directly impact this study. The effect of fuel sulfur content on emissions over the range of Tier 2 standards being considered must be

established prior to deciding on the level of any Tier 2 standards.

- Effects of Current 100,000 -120,000 Mile Useful Life Standards. The MOBILE5 model emission rates for Tier 1 vehicles also appear to include no benefit for current 100,000-120,000 mile standards for passenger cars and light duty trucks (EPA examined the issue for MOBILE5, but determined at that time that the 50,000 mile standards were the controlling factor). The benefits of these requirements must be further examined, and incorporated into the emission rates prior to assessing the benefits of alternative useful life requirements.

These are a few of the major changes that EPA is planning for MOBILE6, which could have a significant effects on the relative benefits of various Tier 2 standards versus Tier 1 vehicles. These MOBILE6 studies must be incorporated into the Tier 2 study in order for the Tier 2 study to be meaningful.